PATENT APPLICATION
DOCKET NO.: 1263-0013US

REMARKS

Claims 1-49 were originally presented for examination. By way of this response, claims 8-13, 22-27, and 46-49 have been canceled without prejudice or limitation.

Claims 1-7, 14-21 and 28-45 are currently pending, of which claims 1, 16, and 35 are in independent form. Claims 1, 5-7, 15, 16, 20, 21, 29-31, 35, 37, 38, 40, and 41 have been amended as set forth above.

No new matter is introduced hereby.

Favorable reconsideration of the present patent application as currently constituted is respectfully requested.

Regarding the Specification

Responsive to the comments in the instant Office Action at Item 3, Applicant has appropriately amended the original specification by way of a replacement paragraph **[0029]**.

Regarding the Claim Rejections - 35 U.S.C. §101

With respect to the rejection of claims 46-49 under 35 U.S.C. §101 in the instant Office Action, Applicant respectfully submits that these rejections have been rendered moot by way of the present response.

Regarding the Claim Interpretation

The instant Office Action appears to define a number of terms for purposes of interpreting the pending claims. Applicant reserves the right to traverse such interpretation at a later time.

Regarding the Claim Rejections - 35 U.S.C. §102

In the pending Office Action, claims 1, 5-15, 35-38, 45-47 and 49 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,405,160 to Djaja et al. (hereinafter the *Djaja* reference). With respect to the base claim 1, the Examiner has commented as follows:

> Djaja et al. teaches Memory compiler interface and methodology. Specifically, as per claim 1, Djaja et al. teaches a memory compiler characterization method for determining parametric data associated with compilable memory instances (Abstract L1-8; Fig. 2, Item 70; CL1, L5-12; Fig. 4; CL1, L55-57; CL4, L64-67), comprising the steps:
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> obtaining a first parametric dataset for a first plurality of memory compilers, each of the memory compilers for compiling a respective memory instance having a select number of physical rows and a select number of physical columns (Abstract, L1-8; CL1, L31-34; CL2, L16-27; CL5, L13-20), wherein each memory instance is organized using a first MUX factor and each data point in the first parametric dataset corresponds to the respective memory instance (Abstract, L1-8; CL5, L13-20), the data point comprising a value with respect to a particular parameter (Abstract, L6-8; CL5, L13-20);
>
> obtaining a second parametric dataset by characterizing the particular parameter for a second plurality of memory compilers (Abstract, L1-8; Fig 2, Item 70; CL1, L31-34), each of the second plurality of

memory compilers for compiling a respective memory instance organized with a second MUX factor (Abstract, L1-4 and L6-8), wherein the second plurality of memory compilers are sampled from the first plurality of memory compilers such that each memory instance compiled by the second plurality of memory compilers corresponds to a respective congruent memory instance of the first parametric dataset having identical numbers of physical rows and physical columns (Fig 4, bottom plane at MUX of 2 and top plane at MUX of 16; CL5, L2-12; CL5, L13-20; CL5, L28-31);

determining scale factors for a select number of parametric data points associated with respective congruent memory instances of the first and second parametric datasets (Fig. 4, corner vertical lines; CL2, L46-47; CL4, L64-67; CL5, L52-65);

obtaining an interpolated scale factor based on the scale factors (Fig. 4, the lines defining the horizontal plane in the middle of the cubicle); and

deriving a value of the particular parameter for an additional memory instance of second parametric dataset by applying the interpolated scale factor to a data point associated with a memory instance of the first parametric dataset, wherein the memory instance is congruent with respect to the additional memory instance of the second parametric dataset (Fig. 4, the lines defining the horizontal plane in the middle of the cubicle).

Substantially similar comments were also made in the pending Office Action with respect to the base claims 35 and 46.

Applicant respectfully submits that these §102 rejections have been overcome or otherwise rendered moot by way of the present response. Base claim 1 is directed to a memory compiler characterization method and, as currently amended, involves, *inter alia*, obtaining a first parametric dataset associated with a first plurality of memory compilers that are used for compiling a first

set of memory instances using a first MUX factor. Each data point in the first parametric dataset corresponds to a value with respect to a particular parameter characterized for a memory instance sampled from all possible memory configurations (i.e., varying number of rows and varying number of columns) comprising the first set of memory instances. A second parametric dataset is obtained by characterizing the same parameter for a second set of memory instances that are compiled by a second plurality of memory compilers, but with a second MUX factor. As claimed, the second plurality of memory compilers are sampled from the first plurality of memory compilers, in that not all memory configurations that were characterized in the first parametric dataset are characterized for the second parametric dataset. The scale factors are then determined for a select number of parametric data points associated with respective congruent memory instances (i.e., the memory instances having the same row X column configuration but with separate MUX factors). Based on the scale factors, an interpolated scale factor is obtained, which is then used for deriving a parametric value of a memory instance with the second MUX factor that has not been characterized previously.

Similarly, the base claim 35, directed to a memory compiler characterization system, involves, *inter alia*, means for

characterizing a second plurality of memory compilers with respect to a particular parameter, the second plurality of memory compilers for compiling memory instances of second type, wherein the memory instances of second type comprise memory instances sparsely sampled from the memory instances of first type such that each sampled memory instance of second type corresponds to a respective congruent memory instance of first type having identical numbers of physical rows and physical columns.

The *Djaja* reference is directed to a memory compiler for use in designing integrated memory arrays from user specifications. Essentially, the *Djaja* reference is concerned with statistical modeling of memory parametric variables wherein each parametric variable is determined as a function of a number of memory architecture variables in obtaining what are referred to as characteristic equations by way of multivariate regression analysis. These characteristic equations are then used to predict the parametric values of a particular memory configuration supplied by the user.

As disclosed, the *Djaja* reference requires simulation of all possible memory configurations (i.e., matrix combinations of bits per word, number of rows, and column MUX factor) for purposes of determining the characteristic equations. See column 5, lines 47-

65. Further, to the extent the datasets corresponding to two different levels (e.g., the bottom plane at MUX 2 and the top plane at MUX 16) of FIG. 4 of the *Djaja* reference can equated to the first and second parametric datasets as claimed by Applicant, as appears to be the case in the instant Office Action, the second parametric dataset is not obtained as a sparsely sampled set of data points with respect to the first parametric dataset since the datasets at MUX 2 and MUX 16 in *Djaja* are co-extensive. In other words, for each data point determined at MUX 2 level, there is a corresponding data point determined at MUX 16 level as well.

At least for the foregoing reasons, Applicant respectfully submits that the pending base claims 1 and 35 are allowable over the *Djaja* reference. Dependent claims 5-15 depend from the base claim 1 and introduce further limitations therein. Likewise, dependent claims 36-38 and 45 depend from the base claim 35 and introduce further limitations therein. Accordingly, it is believed that these dependent claims are also allowable over the *Djaja* reference.

Regarding the Claim Rejections - 35 U.S.C. §103(a)

In the pending Office Action, claims 2-4 are rejected under 35 U.S.C. §103(a) as being unpatentable over the *Djaja* reference in

view of U.S. Patent No. 6,249,901 to Yuan et al. (hereinafter the *Yuan* reference). Further, claims 16, 20-34, 39-44, and 48 are rejected under 35 U.S.C. §103(a) as being unpatentable over the *Djaja* reference in view of U.S. Patent No. 6,405,160 to Murotani (hereinafter the *Murotani* reference). Finally, claims 17-19 are rejected under 35 U.S.C. §103(a) as being unpatentable over the *Djaja* reference in view of the *Murotani* reference and further in view of the *Yuan* reference.

Applicant respectfully submits that these §103 rejections have been overcome or otherwise rendered moot by way of the present response. As set forth above, the *Djaja* reference, which is applied as a primary reference herein, is deficient when applied against the base claims 1 and 35. Further, based on the same analysis, Applicant respectfully maintains that the *Djaja* reference is also deficient when applied against the currently-amended base claim 16. However, the critical deficiencies of the *Djaja* reference as applied are not cured by the secondary references, i.e., the *Yuan* and *Murotani* references, either individually or in combination, when used as a basis for obviousness in the pending Office Action. It is well known that to establish a *prima facie* case of obviousness the combined references must teach or suggest all the claim limitations. See MPEP §2143. Applicant respectfully

contends that the combined teachings of the applied art do not teach or suggest all the claim limitations as currently recited at least as to: (i) obtaining a first parametric dataset associated with a first plurality of memory compilers, wherein a data point corresponds to a value with respect to a particular parameter characterized for a memory instance sampled from all possible memory configurations; and (ii) obtaining a second parametric dataset by characterizing the same parameter for a second set of memory instances that are compiled by a second plurality of memory compilers, wherein the second plurality of memory compilers are sampled from the first plurality of memory compilers in that not all memory configurations that were characterized in the first parametric dataset are characterized for the second parametric dataset.

Based on the foregoing discussion, it is believed that the pending §103 rejections have been overcome.

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CHARGE STATEMENT:

All applicable fees are being paid along with this response. To the extent required, however, the Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fees(s) paid, or asserted to be filed, or which should have been filed herewith or concerning any paper filed as part of this transmittal to our **Deposit Account No. 03-1130.**

This CHARGE STATEMENT does not authorize charge of the Issue Fee until/unless an Issue Fee transmittal form is filed.

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SUMMARY AND CONCLUSION

In view of the fact that none of the art of the record, whether considered alone or in combination discloses, anticipates or suggests the present invention, as now defined by the independent claims, and in further view of the above remarks, reconsideration of the Action and allowance of the present invention are respectfully requested and are believed to be appropriate.

Respectfully submitted,

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